

LOGGED BY M. McKee	BEGIN DATE 1-14-08	COMPLETION DATE 1-15-08	BOREHOLE LOCATION (Lat/Long or North/East and Datum) N2120911.388 / E5997294.446 (NAD83)	HOLE ID DNB-R1
DRILLING CONTRACTOR Gregg Drilling and Testing, Inc.	BOREHOLE LOCATION (Offset, Station, Line) Offset 113ft R Sta 52+37 NB Alignment		SURFACE ELEVATION 11.830 ft (NAVD88)	
DRILLING METHOD Mud Rotary	DRILL RIG Fraste Multi-drill (track)		BOREHOLE DIAMETER 5 in.	
SAMPLER TYPE(S) AND SIZE(S) (ID) MC (2.4"), SPT (1.4"), Shelby (2.87"), Pitcher (2.87")	SPT HAMMER TYPE Automatic, 140 lbs., 30-inch drop		HAMMER EFFICIENCY, ERI 72.9%	
BOREHOLE BACKFILL AND COMPLETION Neat Cement Grout backfill	GROUNDWATER DURING DRILLING AFTER DRILLING (DATE) READINGS		TOTAL DEPTH OF BORING 98 ft	

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
0	0		2" ASPHALT CONCRETE												
1	1		SANDY CLAY (CL), soft, low to medium plasticity, dark gray and bluish gray, moist, trace coarse SAND and fine GRAVEL, with nails, woody debris, mixed texture. [FILL]												
9.83	2			S1	3	9	89								
	3				4										
	4			S2	1	8	67								
7.83	5		CLAYEY SAND (SC), very loose, dark gray to olive gray, very moist, trace fine gravel, nails.		2										
	6				1										
5.83	7		7.0' - 9.5', grades SANDY CLAY to LEAN CLAY.												
	8		Poorly graded SAND (SP), loose, dark gray, wet, fine. [MARINE SAND]	U3			RWO 87								
3.83	9		Fat CLAY (CH), soft, dark gray, wet. [BAY MUD]												
	10														
1.83	11														
	12		SILTY SAND (SM), loose, gray, very moist to wet, fine. [MARINE SAND]												
-0.17	13			S4	1	3	67								
	14				1										
	15			S5	1	6	61								
	16				2										
-4.17	17				4										
	18		Poorly graded SAND (SP), medium dense, olive gray, very moist, fine to medium.	S6	15	43	78								
-6.17	19		Grades with FAT CLAY.		19										
	20			S7	5	4	100								
	21				1										
-8.17	22		SANDY CLAY (CH), very soft, dark gray, very moist, with lenses of clean SAND. [SANDY BAY MUD]	U8			RWO 93								
	23				3										
-10.17	24		CLAYEY SAND (SC), very loose, brown to grayish, very moist, fine to medium, with lenses of clean sand. [MARINE SAND]	S9	2	11	78								
	25				2										
	26		Poorly graded SAND (SP), medium dense, brown to grayish brown, moist, fine.		9										
	27														
	28														
	29														
	30														
	31														
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	96														
	97														
	98														

(continued)



Department of Transportation
Division of Engineering Services
Geotechnical Services

REPORT TITLE
BORING RECORD

DIST. 4 COUNTY S.F. ROUTE 101 POSTMILE 8.3/9.4

HOLE ID
DNB-R1
EA
163701

PROJECT OR BRIDGE NAME
Doyle Drive Replacement Project

BRIDGE NUMBER 34-164R PREPARED BY T. Carroll

DATE 11-3-08 SHEET 1 of 4

Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
-14.17	25		CLAYEY SAND (SC), ~stiff, medium plasticity, yellowish brown, moist. [COLMA SAND]												26.5'
	26														Driller notes drilling faster below 26.5'
	27		Poorly graded SAND (SP), very dense, brown to yellowish brown, moist to very moist, fine, with some iron-oxide staining.		S10	22	71	89							
-16.17	28					30									
	29		Grades very dense, with angular to subangular fine GRAVEL (graywacke sandstone fragment ~1.5") at 29.5', with SANDY CLAY lenses.		S11	7	70	100							
	30					23									
-18.17	31					47									
	32		32.0' - 32.5', grades with iron-oxide stained seams.		S12	20	84	94							
	33					40									
	34				S13	15	71	100							
-22.17	35					28									
	36					43									
-24.17	37		37.0' - 37.5', iron-oxide stained seams grade 0.5" thick. Grades with CLAYEY SAND lenses.		S14	21	74	100							
	38					30									
-26.17	39		Grades very fine, with trace SILT.		S15	19	99	100							
	40					49									
-28.17	41					50									
	42				S16	23	88/	100							
	43					38	11"								
	44				S17	14	50/	100							
-32.17	45					50/	5.5"								
	46					5.5"									
-34.17	47		Grades with lenses of CLAYEY SAND. 47.5' - 47.9', iron-oxide staining.		S18	30	50/	100							
	48				S19	15	46	100							
-36.17	49		CLAYEY SAND (SC): dense, brownish gray to yellowish brown, moist, fine.			20									
	50					26									
-38.17	51														
	52		52.0' - 52.5', grades gray.		S20	16	40	100							Drilling slows at 51.5' per driller material remains clayey sand
-40.17	53					16									
	54					24									
-42.17	55														

(continued)



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Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
-44.17	56		CLAYEY SAND (SC): dense, brownish gray to yellowish brown, moist, fine.												
	57		Grades very dense, greenish gray, with grayish brown laminations (57-57.5'), with horizontal iron-oxide laminations.												
-46.17	58			X	S21	9 21 34	55	100							
	59														
-48.17	60														
	61														
-50.17	62		Poorly graded SAND with SILT (SP-SM), very dense, greenish gray, wet, fine.	X	S22	19 23 27	50	100							
	63														
-52.17	64														
	65														
-54.17	66														
	67		Grades with occasional black pieces of decayed vegetation, lenses of SANDY CLAY.	X	S23	21 46 50/ 4.5"	96/ 10.5"	100							
-56.17	68		Poorly graded SAND (SP), very dense, dark gray, moist.												
	69														
-58.17	70														
	71														
-60.17	72		Grades with lenses of CLAYEY SAND.	X	S24	33 31 20	51	100							
	73														
-62.17	74		Fat CLAY (CH), stiff to very stiff, greenish gray, trace fine SAND. [OLD BAY CLAY]												
	75														
-64.17	76														
	77														
-66.17	78				U25		RW/ 12", 450 psi/ 18"	80							
	79														
-68.17	80														
	81														
-70.17	82														
	83														
-72.17	84		84.0', grades with fine SAND, dark gray.												
	85														

(continued)



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Figure

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-74.17	85		Fat CLAY (CH), stiff to very stiff, greenish gray, trace fine SAND. [OLD BAY CLAY]												
-76.17	86														
	87		Grades gray, with trace to no SAND, stiff.		U26		260 psi	20							Only 6" recovery with Pitcher barrel - material softer than above
-78.17	88														
	89														
-80.17	90				S27	8	19	100							
	91					9									
	92					10						PP = 0.85, 0.875, 0.9			
-82.17	93														
	94														94', Drilling rate increased under same applied pressure
-84.17	95														
	96		Grades with lenses of SILTY SAND, shell fragments.		U28		RW	100							
-86.17	97														
	98		Grades very stiff.												
	99		Borehole terminated at a depth of 98 feet on 1/15/2008.												
-88.17	100		See Boring Record Legend for soil classification chart and key to test data and sampler type.												
	101														
-90.17	102														
	103														
-92.17	104														
	105														
-94.17	106														
	107														
-96.17	108														
	109														
-98.17	110														
	111														
-100.17	112														
	113														
-102.17	114														
	115														



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Figure